

IN THE CLAIMS

Please amend claims 1 and 5, and reconsider all pending claims 1 and 5-7 as follows:

Claim 1 (Currently Amended) A hybrid composite flywheel rim comprising:

a cylindrical fiber-wound structure having at least two different types of fibers, including a first fiber type and a second fiber type, impregnated with a thermosetting resin ~~such as epoxy resin~~ and wound in an annulus on a mandrel, said two different fibers having different elastic moduli;

said fiber is distributed in said cylindrical fiber-wound structure as bands of tows, each tow having only a single type of fiber, said tows lying in a lay-up pattern that is defined by the correlation between lead rate per mandrel revolution and winding length to produce a random distribution of said first fiber type amongst said second fiber type macroscopically.

Claims 2-4 (canceled)

Claim 5 (Currently Amended) A hybrid composite flywheel rim, comprising:

fibers having different elastic moduli, said fibers including carbon fiber, and at least one other fiber including glass fiber, said fibers fixed in a matrix of thermosetting resin ~~such as epoxy resin~~;

said fiber is distributed in said cylindrical fiber-wound structure as bands of tows, each tow having only a single type of fiber, said tows lying in a lay-up pattern that is defined by the correlation between lead rate per mandrel revolution and winding length to produce of said carbon fiber is distributed amongst the other fiber in a cross hatch pattern macroscopically.

6. (Original) A hybrid composite flywheel rim as defined claim 5, wherein:
the following equation is satisfied:

$$W_L = (N + B/A) \cdot L_R$$

$$W_L + L_R < L_m$$

N : Maximum integer obtained when W_L is divided by L_R

A : integer larger than B

B : integer smaller than A

B/A : 1, 1/2, 1/3, 1/4

W_L : Winding Length (inch)

L_R : Lead Rate (inch)

L_m : Distance between inner faces of two mandrel flanges (inch)

$$m \cdot L_R = n \cdot Sp$$

m : integer $\Delta 2$

n : integer $\Delta 2$

Sp : fiber space amongst other fiber (inch)

7. (Previously Presented) A composite flywheel rim, comprising:

an annular structure having a plurality of zones, each with multiple fiber layers in a resin matrix, each said fiber layer having a mixture of carbon fiber tows and glass fiber tows wound in a fiber band with a predetermined lead rate into said annular structure, said band having a ratio of tows that is constant in each layer of any single zone, and said ratio incrementally increases zone-by-zone radially toward outside zones of said rim;

wherein said predetermined lead rate, in correlation with the winding length, ensures that said carbon fiber tows lie in a macroscopically uniform distribution in each zone .